

What is claimed is:

1. A bucket tooth attached to a bucket lip via a fastening bolt,  
comprising axial force fluctuation absorbing means for absorbing fluctuations in axial force of said fastening bolt after attaching said bucket tooth to said bucket lip.
2. The bucket tooth according to claim 1, wherein said axial force fluctuation absorbing means allows the bucket tooth to generate a resilient return force by causing a warp by resilient deformation so that one face side becomes a concave face and performing bolting in a state where the one face side is positioned on the bucket lip side.
3. The bucket tooth according to claim 2, wherein said warp is caused around a bolt hole into which the fastening bolt is inserted as a center, and an amount  $s$  of the warp is set to a value satisfying an equation of  $2 \text{ mm/m} \leq s \leq 15 \text{ mm/m}$ .
4. The bucket tooth according to claim 1, wherein said axial force fluctuation absorbing means allows the bucket tooth to generate a resilient return force by spot facing the circumference on the side facing said bucket lip, of a bolt hole in which the fastening bolt is inserted.
5. The bucket tooth according to claim 1, wherein said axial force fluctuation absorbing means allows said bucket tooth to generate a resilient return force by causing a warp by resilient deformation so that one face side becomes a concave face, spot-facing the circumference on the side facing said bucket lip, of a bolt hole in which the fastening bolt is inserted, and performing bolting in a state where said one face side is positioned on

a bucket lip side.

6. The bucket tooth according to claim 4 or 5, wherein a ratio (z) of a depth L of the spot facing to a diameter D of the spot facing ( $= L/D$ ) is set to a value satisfying an equation of  $2 \text{ mm/m} \leq z \leq 18 \text{ mm/m}$ .

7. A bucket tooth attached to a bucket lip via a fastening bolt, wherein a bearing surface of said fastening bolt is formed in a tapered surface which is tapered down in an insertion direction of the fastening bolt.

8. The bucket tooth according to claim 7, wherein an angle of said tapered surface is set within a range from  $20^\circ$  to  $45^\circ$  with respect to a center line of a bolt hole.

9. A bucket tooth attached to a bucket lip via a fastening bolt, wherein a bearing surface of said fastening bolt is formed in a spherical curved surface which is tapered down in an insertion direction of the fastening bolt.

10. A bolted structure of a bucket tooth according to any of claims 7 to 9, wherein either said bucket lip or bucket tooth is tapped, and said bucket lip and said bucket tooth are fastened to each other by a fastening bolt inserted from the other side.

11. A bolted structure of a bucket tooth according to any of claims 7 to 9, wherein said bucket lip and said bucket tooth are fastened to each other by screwing the tip of a fastening bolt inserted from either said bucket lip or said bucket tooth into a nut on the other side.

12. A method of manufacturing a bucket tooth which is warped so that one face side becomes a concave face, comprising the steps of:

heating the bucket tooth to a predetermined temperature; and

causing a warp by positively applying a coolant to an almost center portion of a face on the side opposite to a side facing a bucket lip to which said bucket tooth is attached in a quenching process after the heating.

13. The method of manufacturing a bucket tooth according to claim 12, wherein a surface area of a face opposite to a side facing said bucket lip is set to be larger than that of the side facing said bucket lip, and a warp is caused due to a large transformation expanding amount of the face having the larger surface area in a quenching process.

14. The method of manufacturing a bucket tooth according to claim 12, wherein a decarburized layer on a side opposite to a side facing said bucket lip is removed and, after that, a quenching process is performed, thereby shrinking the decarburized layer to cause a warp.

15. The method of manufacturing a bucket tooth according to any one of claims 12 to 14, wherein a load is applied to an almost center portion of a side facing the bucket lip to which said bucket tooth is attached to thereby preliminarily cause a warp after said heating and before a quenching process.